Technical Track Session

Optimizing XML on Your Campus and XML Lessons Learned

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XML Implementation: A University Initiative

- Projects In Use:
  - Work Flow
  - Act 48 Course Information Exchange with PA Department of Education
  - COD for Pell
  - SEVIS Reporting

XML Implementation: A University Initiative

- Projects in Development:
  - CRC: Commonline
  - ISIR
  - Federal Express Shipping Information Exchange
  - Academic Transcript Information Exchange
  - Various Web applications

Step One:
Identifying XML Technology to meet the institution's programming needs

- Tamino: XML database
- Mediator: Manages and controls the flow of XML documents
- Entire X: Mediator Wrapper/Bridge to Mainframe database (ADAbase/Natural)

Step Two: Training

- Software AG:
  - Consulting Services
  - Training Services
    - Overall training
    - Specific projects

Step Three: Implementing Applications

- COD Pell:
  - Before the decision making process
  - Brute force/Manually created XML Parser
  - Complex and time consuming changes

Step Three: Implementing Applications

- CRC: Commonline:
  - Complex file
  - Currently not using Commonline
  - Establishing testing partners
- Other implementation issues

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Lessons Learned

Contact Information

We appreciate your feedback and comments.
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Tim Bornholtz

Federal Student Aid

First Impressions

- XML was an ugly duckling
  - Excessively large and verbose.
  - Many tags larger than the data.
  - Unpredictable - variable lengths
  - CPU and space hungry

Directly opposite of what was taught in the earlier years of Data Processing – save space and CPU cycles

Why switch to XML?

- This is an investment in the future
- As automation grows throughout the campus, more non-techies are involved
  - Easier to read if you need to
- Data storage and CPU costs are getting much cheaper than human costs for time
- Multiple platforms

Positioning for the future

- Web services
- Real-time processing
- XML is the common glue to hold everything together

Current XML Usage on Campuses

- Hard to find large production usage of XML
- Many campuses only move to XML when mandated
  - FSA - Common Record for COD
  - Homeland Security – Student Exchange Visitor Information System (SEVIS)
- Moving to XML based course catalogs

XML Parsers

- Big lesson learned, don't write your own XML parser!
  - Are these equivalent?
    - <FirstName></FirstName> and <FirstName/>
    - <Name xmlns:tns="….”><tns:xxx>…
<Name><tns:xxx xmlns:tns="….”>…
  - Must handle different character encodings
    - UTF-8, UTF-16, en-us, others?

Many campuses are looking at XML databases

- Most every major database product has the ability to return result sets as XML
- Native XML databases
  - Allow storage of entire XML documents.
  - Has XML document as the unit of storage like relational db has rows and tables
  - Allow query and manipulation across XML documents

What's needed?

- Easier way to create XML documents programmatically
- Consistent standards across the whole campus
  - Being addressed by PESC
- Third party vendors are very supportive of XML and the XML based standards

Where to go from here…

- XML is just like learning a different language
  - You have to just keep at it.
  - Keep plugging away.
- As more people do more things in XML there will be an industry network to help

Contact Information

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